

Remarks

Claims 1, 3-15 and 17-117 are presently pending in the application.

Claims 1, 3-14, 17, 29 and 116 have been canceled. Claim 15 has been amended incorporating the material from the canceled claim 17. Support for the amendment can be found on page 10 of the instant application.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 3-4, 7-15, 17-18, 21-29, 32-33, 58-64, 89-95 and 116-117, under 35 U.S.C. 103(a) as being anticipated by Khare et al. (U.S. 5,726,117) in view of Khare et al. (U.S. 6,184,176). Claims 1 and 3-15 and 116 have been canceled.

Khare '117 discloses a composition comprising "a zinc component, a colloidal oxide component, and a metal oxide component" (*see* Khare '117, col. 1, lines 60-63). The metal oxide of the colloidal oxide can be alumina, silica, and manganese oxide (*see* Khare '117, col. 2, lines 29-35). The metal oxide component of the composition can be a metal aluminate (*see* Khare '117, col. 2, lines 45-46). The composition can also include a Group VIII metal oxide promoter (*see* Khare '117, col. 3, lines 36-27).

Khare '176 discloses a composition comprising zinc oxide, silica, alumina and cobalt in a reduced valence state (*see* col. 2, lines 59-65). The composition is reduced with a suitable reducing agent in order to produce a composition with cobalt in a substantially zero valence state (*see* col. 3, lines 9-15).

Applicants submit that since all references to zinc in the claims have been removed, the claims are patentable over both Khare references since they both disclose compositions requiring a zinc component.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 3-15, 17-29, 32-33, 58-64 and 89-95 and 116-117 under 35 U.S.C. 103(a) as being anticipated by Moskovitz et al. (U.S. 5,948,726) in view of Khare '176.

Moskovitz discloses a catalyst comprising colloidal alumina and one or more oxide particles of MnO₂ and NiO, among others (*see* Moskovitz, col. 13, lines 27-31). Moskovitz also discloses compounds containing manganese oxide (*see* Moskovitz, Table I).

Khare '176 discloses a composition as stated above.

Moskovitz does not disclose any of these manganese-containing compounds also containing a silicon-containing material or a promoter in a substantially reduced valence state. Moskovitz does not disclose or suggest, and Applicants have not found, a promoter wherein at least a portion of the promoter is present as a reduced-valence promoter or a zero-valence promoter.

Applicants submit that it would not be obvious to apply the reducing concept of Khare '176 to Moskovitz. The catalyst with manganese oxide and nickel disclosed in col. 13 of Moskovitz is a reducing catalyst. It would be counterintuitive to reduce a reducing catalyst.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claim 1, 3-4, 7-15, 17-18, 21-23, 27-29, 32-33, 58-64, 89-95 and 116-117 under 35 U.S.C. 102(b) as being anticipated by Thakur et al. (U.S. 5,134,108). Based on the context of the rejection, Applicants assume that this was meant to be a 35 U.S.C. 103(a) rejection.

Thakur discloses a catalyst “comprising a major amount of the oxides of a first metal selected from the group of copper and zinc, a second metal selected from chromium, molybdenum, tungsten and vanadium, and optionally, a minor amount of the oxide of a promoter metal selected from the group consisting of manganese, barium, zinc, nickel, cobalt, cadmium, iron and any combination thereof . . .” (*see* Thakur, col. 3, lines 59-66). Thakur also discloses that “. . . the metals may be present in different valence states.” (*see* Thakur, col.. 4, lines 18-20).

Khare discloses a composition as stated above.

The instant application claims that at least a portion of the promoter is present as a zero valence promoter (*see* Claim 1 of the instant application). Thakur merely discloses that it is possible to have metals present in different valence states, the reference does not disclose or suggest that at least a portion of the promoter must be present as a reduced valence promoter or a zero-valence promoter. Nor does Thakur disclose that its composition has a promoter present in an amount, which will effect the removal of sulfur from a hydrocarbon stream when contacted with the composition under desulfurization conditions. Thakur discloses catalysts useful in hydrogenation reactions (*see* Thakur, col. 1, lines 16-17). Thakur discloses that the

composition must contain either chromium, molybdenum, tungsten, or vanadium, which have been eliminated by the amendments to the instant claims.

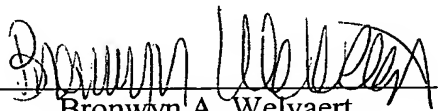
The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 3-15, 17-33, 58-64, and 89-95 under 35 U.S.C. 102(b), as being anticipated by Schlaefer et al. (U.S. 4,078,004) in view of Khare '176. Based on the context of the rejection, Applicants assume that this was meant to be a 35 U.S.C. 103(a) rejection.

Schlaefer discloses cobalt-molybdate and iron-molybdate based catalysts containing expanded, crushed perlite (*see* Schlaefer, col. 1, lines 58-63). The perlite can contain silicon dioxide, alumina, and a small amount of manganese oxide (*see* col. 2, lines 53-60). Khare discloses a composition as stated above. Schlaefer does not disclose a promoter wherein at least a portion of which is present as a reduced valence promoter. Schlaefer also does not disclose a promoter present in an amount, which will effect the removal of sulfur from a hydrocarbon stream when contacted with its catalysts under desulfurization conditions. Schlaefer's catalysts are used for oxidation of aldehydes or olefins (*see* Schlaefer, col. 1, lines 11-12). Applicants also submit that the Schlaefer reference discloses a composition that must contain a molybdate or tungsten which is not the case with the amended claims.

In view of the foregoing remarks and amendments, claims 15, 18-28, 30-115 and 117 are believed to be in condition for allowance. Therefore, early allowance of these claims is respectfully requested.

Respectfully submitted,

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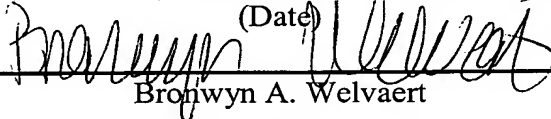
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22 March 2006

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